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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SON NGUYEN-KIM, HORST SCHUCH,  
THOMAS KAISER, CLAUDIA WOOD,  
and PETER HOSSEL

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Appeal 2010-003573  
Application 10/541,157  
Technology Center 1700

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Before BRADLEY R. GARRIS, TERRY J. OWENS, and  
MARK NAGUMO, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>  
STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 30, 31, and 36-47. Claims 1-15 and 27-29, which are all of the other pending claims, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

*The Invention*

The Appellants claim an ampholytic copolymer. Claim 30 is illustrative:

30. An ampholytic copolymer obtainable by free-radical copolymerization of
- a) at least one compound with a free-radically polymerizable,  $\alpha,\beta$ -ethylenically unsaturated double bond and at least one anionogenic and/or anionic group per molecule,
  - b) at least one compound with a free-radically polymerizable,  $\alpha,\beta$ -ethylenically unsaturated double bond and at least one cationogenic and/or cationic group per molecule,
  - c) at least one  $\alpha,\beta$ -ethylenically unsaturated amide-group-containing compound selected from the group consisting of acrylamide, methacrylamide, N-vinylpyrrolidone, N-vinylcaprolactam, N-vinylformamide, N-vinylacetamide and mixtures thereof,

where the quantitative molar ratio of compounds a) to compounds b) is from 0.5:1 to less than 2:1.

*The References*

Jenkins	5,639,841	Jun. 17, 1997
Galleguillos	6,361,768 B1	Mar. 26, 2002
Blankenburg	6,403,074 B1	Jun. 11, 2002
Morschhäuser	6,645,476 B1	Nov. 11, 2003

*The Rejections*

Claims 30, 31, and 36-47 stand rejected under 35 U.S.C. § 103 over Jenkins, Galleguillos, Blankenburg or Morschhäuser.

## OPINION

We affirm the rejections over Jenkins and over Galleguillos as to claims 30, 31, 36-39, and 41-47 and reverse as to claim 40, and reverse the rejections over Blakenburg and over Morschhäuser.

### *Issue*

Have the Appellants indicated reversible error in the Examiner's determination that the applied prior art would have rendered *prima facie* obvious, to one of ordinary skill in the art, the Appellants' ratio of compound a to compound b in independent claim 30 and the limitations in the dependent claims addressed by the Examiner?

### *Rejection over Galleguillos*

#### *Findings of Fact*

Galleguillos discloses a hydrophilic ampholytic polymer or copolymer formed by copolymerizing 0.05-20 mol% of at least one anionic monomer having at least one carboxyl-functional group, 10-45 mol% of at least one cationic monomer having at least one amino-functional group, about 35 to about 95 mol% of at least one non-ionic hydrophilic monomer, 0-10 mol% of a fourth hydrophobic monomer, and 0-1.5 mol% of a cross-linking monomer (col. 4, ll. 36-49). The non-ionic hydrophilic monomer can be acrylamide, methacrylamide or N-vinyl pyrrolidone (col. 7, ll. 27-49), which are among the Appellants'  $\alpha,\beta$ -ethylenically unsaturated amide-group-containing compounds. "A preferred ratio of cationic monomers to anionic monomers is from about 2 to about 16, with the ratio of about 3 to 16 being further preferred" (col. 12, ll. 47-49). The ampholytic copolymers are useful in cosmetic and pharmaceutical compositions (col. 3, l. 64 – col. 4, l. 9),

which are among the types of compositions in which the Appellants use their ampholytic copolymer (Spec. 31:33-34).

### *Analysis*

The Appellants argue that because Galleguillos discloses that the preferred ratio of cationic monomers to anionic monomers is about 2 to about 16, with a ratio of about 3 to 16 being further preferred, and because that ratio in Galleguillos' examples is 3:1 or greater, Galleguillos teaches away from the Appellants' anionic:cationic compound ratio range of 0.5:1 to less than 2:1 (Br. 11-12; Reply Br. 4-6).

The Appellants' anionic:cationic ratio of 0.5:1 (i.e., 1:2) is within Galleguillos' cationic:anionic ratio of about 2 (i.e., anionic:cationic ratio of about 1:2). Moreover, references are not limited to the preferred embodiment or to the examples. *See In re Fracalossi*, 681 F.2d 792, 794 n.1 (CCPA 1982); *In re Kohler*, 475 F.2d 651, 653 (CCPA 1973); *In re Mills*, 470 F.2d 649, 651 (CCPA 1972); *In re Bozek*, 416 F.2d 1385, 1390 (CCPA 1969). Instead, all disclosures in a reference must be evaluated for what they would have fairly suggested to one of ordinary skill in the art. *See In re Boe*, 355 F.2d 961, 965 (CCPA 1966). Galleguillos' disclosures of amounts of anionic monomer of 0.05-20 mol% and amounts of cationic monomer of 10-45 mol% (col. 4, ll. 38-41) would have provided one of ordinary skill in the art with a reasonable expectation of success in using any relative amounts within those ranges, including amounts within the Appellants' anionic:cationic ratios of 0.5:1 to less than 2:1 (claim 30), 0.7:1 to 1.8:1 (claim 36) and about 1.1 (claim 37) and, therefore, would have rendered such relative amounts *prima facie* obvious to one of ordinary skill in the art.

*See In re O'Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) (“Obviousness does not require absolute predictability of success .... For obviousness under § 103, all that is required is a reasonable expectation of success”). For that reason the Appellants’ argument regarding claims 41-46 which relies upon the same rationale is not persuasive (Br. 13). Claim 31, which the Appellants do not separately argue, falls with claim 30 from which it depends.

Regarding dependent claims 38 and 47 the Appellants acknowledge that Galleguillos discloses corresponding compounds but argue that Galleguillos does not require them in a composition having a combination of anionic, cationic and specific amide group containing compounds (Br. 12-13).

That argument is not well taken because the Appellants have not explained why the use of those compounds in combination with Galleguillos’ anionic, cationic and amide containing compounds would not have been *prima facie* obvious to one of ordinary skill in the art.

The Appellants argue that the polyether acrylate in copolymerized form required by claim 39 has not been addressed by the Examiner (Br. 13).

It appears that the Examiner addressed that component on page 6 of the Examiner’s Answer (“polyalkylene oxide (meth)acrylates”). The Appellants have not established that the Examiner’s argument regarding that claim is in error.

We do not find in the Examiner’s Answer an argument pertaining to the subject matter of the Appellants’ claim 40 which is separately argued by the Appellants (Br. 13). Hence, we do not sustain the rejection over Galleguillos of that claim.

## *Rejection over Jenkins*

### *Findings of Fact*

Jenkins discloses polymers comprising the reaction product of components which include (A) about 1-99.8 wt% of one or more nonionic, cationic, anionic and/or amphoteric monomers and (B) about 0-98.8 wt% of one or more monoethylenically unsaturated monomers different from component (A) (col. 1, l. 49 – col. 2, l. 13). The nonionic, cationic, anionic and amphoteric monomers can be used in mixtures (col. 2, ll. 47-50). The disclosed nonionic monomers include acrylamide, and the disclosed monoethylenically unsaturated monomers include acrylamide, methacrylamide and N-vinyl pyrrolidone (col. 2, ll. 51-52; col. 3, ll. 50-65), which are among the Appellants'  $\alpha,\beta$ -ethylenically unsaturated amide-group-containing compounds. The polymers are useful in cosmetic and pharmaceutical compositions (col. 9, ll. 4-17), which are among the compositions in which the Appellants use their ampholytic copolymer (Spec. 31:33-34).

### *Analysis*

The Appellants argue that Jenkins does not require or exemplify anionic and cationic monomers used together, particularly in the ratios required by the Appellants' claims 30, 31, 36, and 37 (Br. 8-10).

Jenkins' disclosure that the anionic and cationic monomers can be used in mixtures (col. 2, ll. 47-50) would have led one of ordinary skill in the art, through no more than ordinary creativity, to use them in relative amounts which are proper for the particular product being made. *See KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (In making an obviousness determination one "can take account of the inferences and

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creative steps that a person of ordinary skill in the art would employ””). Because Jenkins’ cosmetic and pharmaceutical compositions (col. 9, ll. 4-17) are types of compositions which the Appellants make using their ampholytic copolymer (Spec. 31:33-34), it reasonably appears that the ratios determined by one of ordinary skill in the art through routine experimentation when using Jenkins’ disclosure to make those compositions would include those used by the Appellants.

Regarding claims 38, 39, and 41-47 the Appellants argue that Jenkins generically describes compounds within the claims but does not require or exemplify them in combination with anionic and cationic compounds in the Appellants’ ratios (Br. 10-11).

That argument is not convincing because the Appellants have not explained why the use of those compounds in combination with Jenkins’ anionic and cationic monomers in the Appellants’ ratios would not have been *prima facie* obvious to one of ordinary skill in the art.

We do not find in the Examiner’s Answer an argument regarding the subject matter of the Appellants’ separately argued claim 40 (Br. 11). Accordingly, we do not sustain the rejection over Jenkins of that claim.

#### *Rejections over Blakenburg and Morschhäuser*

The Appellants argue that neither Blakenburg nor Morschhäuser describes or suggests the Appellants’ required molar ratio of anionic component to cationic component (Br. 14, 16).

The Examiner broadly argues that the components disclosed by Blakenburg and Morschhäuser are within the scope of the Appellants’ monomers and components (Ans. 7-9).

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The Examiner has the initial burden of establishing a *prima facie* case of obviousness. *See In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976). The Examiner does not explain with any reasonable degree of specificity how Blakenburg or Morschhäuser would have led one of ordinary skill in the art, through no more than ordinary creativity, to a combination of anionic and cationic compounds within the ratios required by the Appellants' claims. *See KSR*, 550 U.S. at 418. Hence, we do not sustain the rejections over those references.

#### DECISION/ORDER

The rejections under 35 U.S.C. § 103 over Jenkins and over Galleguillos are affirmed as to claims 30, 31, 36-39, and 41-47 and reversed as to claim 40. The rejections under 35 U.S.C. § 103 over Blakenburg and over Morschhäuser are reversed.

It is ordered that the Examiner's decision is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

sld

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